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Appendix A
GLOSSARY, ACRONYMS AND ABBREVIATIONS

ACSR – Aluminum conductor, steel reinforced conductor wire.

Alternating Current – Electric current that reverses direction sinusoidally, usually many times per second. Household utility current in most countries is AC with a frequency of 60 hertz (60 complete cycles per second), although in some countries it is 50 Hz. The radio-frequency (RF) current in antennas and transmission lines is another example of AC.

ANR – Vermont State Agency of Natural Resources - The state agency whose purpose is "to protect, sustain, and enhance Vermont's natural resources, for the benefit of this and future generations."

Ampere – The unit of measurement of electric current. It is proportional to the quantity of electrons flowing past a given point on a conductor or one second.

ARA – Archaeological Resource Assessment – A process used by the archaeologist to study the possible impact on protected historic sites.

ATV – All-terrain vehicle – An off-road motor vehicle designed for use on rough, sandy, or marshy ground, as well as on roads.

Background – The viewing area of a distance zone that lies beyond the foreground – middleground from a travel; route, use area, or other observer position.

Block-loaded - A certain amount of predefined load that is electrically connected to only one transmission grid.

Bus – An electrical conductor that serves as a common connection for two or more electrical circuits.

ca – circa (meaning "about")

Capability – The maximum load which a generating unit station, transmission system or other electrical apparatus can carry under special conditions per a given period of time without exceeding approved limits or temperature and stress.

Capacitor – A device that stores electrical charges and can be used to maintain voltage levels in power lines and improve electrical system efficiency.

CFR – Code of Federal Regulations, the compilation of federal regulations adopted by federal agencies through a rule-making process.

Circuit – A conductor or system or conductors through which an electrical current is intended to flow.

Climatology – Science of climates, their phenomena, and their causes.

Climax – A climax community is one that has reached the stable stage. Stability is attained through a process known as succession, whereby relatively simple communities are replaced by those more complex. In addition to trees, each successive community harbors many other life forms, with the greatest diversity populating the climax community. Ref.: Columbia Electronic Encyclopedia, 6th ed. Columbia Univ. Press, e.g. at http://education.yahoo.com/reference/encyclopedia/

Community (plant community) – An assembly of plants living together, reflecting no particular ecological status.

Community Types (vegetation) – A group of plants living in a specific region under relatively similar conditions.

Conductor – Any material which is capable of carrying an electrical current.

Conglomerate – A sedimentary rock compromised of an unstratified mixture or stratified layers of cobbles, gravel, and sand.

Coniferous Forest – A forest dominated by cone-bearing, usually evergreen, trees.

Contrast – The effect of striking a difference in the form, line, color, or texture of the landscape features within the area being viewed.

CPG – Certificate of Public Good - Permission needed by an electric utility before they can build or modify any portion of their system per Vermont statute (30 V.S.A. Section 248). The Vermont Public Service Board, after determination that the project promotes public good and meets all the criteria listing in the 248 statute.

Critical Habitat – Sensitive use areas that are of limited abundance and/or possess unique qualities, thereby constituting irreplaceable, critically necessary, habitat.

CUD – Conditional Use Determination – a permit from the Water Quality Division of the Vermont Agency of Natural Resources' Department of Environmental Conservation for wetland impacts.

Cultural Resources – The archaeological and historical remains of human occupation or use. Includes and manufactured objects, such as tools or buildings. May also include objects, s ites, or geological/geographical locations significant to Native Americans.

Cumulative Effects – As defined by 40 CFR 1508.7, cumulative effects are the impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative affects can result from individually minor but collectively significant actions taking place over a period of time.

Current – The movement of electricity through a conductor.

CVPS – Central Vermont Public Service Corporation, a Vermont electric utility.

dBA – The sound pressure levels in decibels measured with a frequency weighting network corresponding to the A-scale on a standard sound level meter, The A-scale tends to suppress lower frequencies, e.g., below 1,000 Hz.

decibels (dB) – Units for describing amplitude of sound frequencies to which the human ear is sensitive. A unit used to express relative difference in power or intensity, usually between two acoustic or electric signals, equal to ten times the common logarithm of the ratio of the two levels. Ref.: American Heritage Dictionary on-line (http://www.bartleby.com/61/).

Deciduous – Trees or shrubs which lose their leaves each year during a cold or dry season.

Deciduous Forest – a forest characterized by tree and shrubs which lose their leaves each year during a cold or dry season.

Demographic – Pertaining to the study of human population characteristics including size, growth rates, density, distribution, migration, birth rates, and mortality rates.

Direct Impacts – As defined by 40 CFR 1508.9, these are effects which are caused by the action and occur at the same time and place as the action.

Direct Impact Area – An area analyzed for the effects of an action that would occur at the same place in time.

Disturbance – An event that changes the local environment by removing organisms or opening up an area, facilitating colonization by new, often different, organisms.

Disturbed Areas – Area where natural vegetation and soils have been removed or disrupted.

Diversity – The distribution and abundance of different plant and animal communities and species within an area.

Double-circuit – A transmission line consisting of two systems of conductors (or wires) through which electric current flows.

Drainage – Natural channel through which water flows sometime of the year. Natural and artificial means for effecting discharge of water as by a system of surface and subsurface passages.

EA – Environmental Assessment:

(a) Means a concise public document for which a Federal agency is responsible that serves to:

(1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI).

(2) Aid an agency's compliance with NEPA when no environmental impact statement (EIS) is necessary.

(3) Facilitate preparation of a statement when one is necessary.

(b) Shall include brief discussions of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted. 40 CFR 1508.9

Effects – Environmental consequences as a result of a proposed or alternative action. Included are direct effects, which are caused by the action and occur at the same time and place, and indirect effects, which are caused by the action and are later in time or further removed in distance but which are still reasonable foreseeable. Also referred to as impacts.

EIS – Environmental Impact Statement. A detailed written statement as required by section 102(2)(C) of NEPA. 40 CFR 1508.11. (See also EA and NEPA.)

EMF – Electromagnetic field. Invisible lines of force, produce by voltage and current, that surround any electrical device or electrical power line. The energy that radiates from all things in nature and from man-made electronic systems. It includes cosmic rays, gamma rays, x-rays, ultraviolet light, visible light, infrared light, radar, microwaves, TV, radio, cell phones and all electronic transmission systems. Electromagnetic radiation is comprised of electric and magnetic fields that move at right angles to each other at the speed of light. Ref.: Amer. Heritage Dictionary on-line, e.g. at http://education.yahoo.com/reference/dictionary/

Endangered Species – Any species or animal or plant which is in danger of extinction throughout all or significant portions of its range and has been designated "endangered" in the Federal Register by the U.S. Secretary of the Interior. Disturbance of the habitat or endangered species is prohibited by the Endangered Species Act of 1973, as amended.

Environment – The aggregate of physical, biological, economic, and social factors affecting organisms in an area.

Environmental Analysis – An analysis of alternative actions and their predictable environmental effects, including physical, biological, economic, and social consequences, and their interactions; short- and long-term effects; direct, indirect, and cumulative effects.

Environmental Assessment – See EA.

Environmental Impact Statement – See EIS.

Erosion – Detachment or movement of soils or rock fragments by water, wind, ice, or gravity. Accelerated erosion is much more rapid than normal, natural or geologic erosion, primarily as a result of the influence of activities of man, animals, or natural catastrophes.

Escarpment – An island cliff or steep slope, formed by the erosion of inclined strata of hard rocks, or possibly as a direct result of a fault.

Fisheries – Streams and lakes used for fishing.

Fisheries Habitat – Streams, lakes, and reservoirs that support fish.

Floodplain – That portion of a river valley, adjacent to the channel, which is built of recently deposited sediments and is covered with water when the river overflows its banks at flood stages.

FONSI – Finding of No Significant Impact. See EA.

Forage – Vegetation used for food by wildlife, particularly big game wildlife and domestic livestock.

Foreground-Middleground – The area visible from a travel route, use area, or other observer position to a distance of 3 to 5 miles. The outer boundary of this zone is defined as the point where the texture and form of individual plants are no longer apparent in the landscape, and vegetation is apparent only in pattern or outline.

Gauss – The centimeter-gram-second unit of magnetic flux density, equal to one maxwell per square centimeter. Ref.: American Heritage Dictionary on line, e.g. at http://www.bartleby.com/61/

Habitat – The place or type of site where a plant or animal naturally or normally lives and grows; includes all biotic, climatic, and soil conditions, or other environmental influences affecting living organisms.

Habitat Diversity – The distribution and abundance of different plant and animal communities and species within a specific area.

Habitat Type – The aggregate of all areas that support or can support the same primary vegetation at climax.

Herbaceous – The plant strata which contains soft, not woody, stemmed plants that die to the ground in winter.

Irretrievable – Applies to the loss of production, harvest, or use of natural resources. For example, some or all of the timber production from an area is lost irretrievable while an area is serving as a winter sports site. The production lost is irretrievable, but the action is not irreversible. If the use changes, it is possible to resume timber production.

Irreversible – Applies primarily to the use of nonrenewable resources, such as minerals or cultural resources, or to those factors that are renewable only over long time spans, such as soil productivity and aspen regeneration. Irreversible also includes loss of future options.

Kilovolt (kV) – 1,000 volts.

Land Use – Land uses determined for a given area that establishes the types of activities allowed (e.g., mining, agriculture, residential, and industrial).

Load – The amount of electric power drawn at a specific time from an electric system or the total power drawn from the system.

Long-Term Effects – Effects that would remain permanently following completion of the project.

Losses – The general term applied to energy and power lost in the operation of an electric system. Losses occur principally as energy transformations from kilowatt-hours to wasted heat in electrical conductors and apparatus. Specifically, in electricity transmission lines, losses are due to the resistance of the copper or aluminum wires themselves.

m – meter. 1 meter = 3.28 feet = 39.37 inches.

mG – milligauss; a measurement of magnetic flux density. One one-thousandth ($1/1000$) of a Gauss in strength.

Mitigate – To lessen the severity of an impact to a resource.

Mitigation – Actions to avoid, minimize, reduce, eliminate, or rectify the impact of a management practice.

Monitor – To systematically and repeatedly watch, observe, or measure environmental conditions in order to track changes.

mv – millivolt**.** One one-thousandth ($1/1000$) of a volt.

MVAR – Mega Volt Ampere Reactive. Reactive power that produce magnetic fields which allow useful work to be done. The energy required to maintain electric and magnetic fields associated with power lines and equipment must be supplied by reactive power.

National Register of Historic Places – A list, maintained by the National Park Service (U.S. Department of the Interior), of areas which have been designated as being of historical significance.

Native Species – Plants that originated in the area in which they are found, i.e., they naturally occur in the area.

NEPA – The National Environmental Policy Act of 1969, as amended. This is the national charter for protection of the environment. NEPA establishes policy, sets goals, and provides means for carrying out the policy. Regulations 40 CFR 1500-1508 implement the act.

Not-to-be-disturbed Buffer zones – An environmentally sensitive area designated by any federal, state, or local agency. Rights-of-way would be granted only in cases where there is a prevailing need or no practical alternative exists, and then only with provisions to protect the sensitive resources.

Ozone – A molecule containing three oxygen atoms (O_3) produced by passage of an electrical spark through air or oxygen. An unstable, poisonous allotrope of oxygen that is formed naturally in the ozone layer from atmospheric oxygen by electric discharge or exposure to ultraviolet radiation, also produced in the lower atmosphere by the photochemical reaction of certain pollutants. It is a highly reactive oxidizing agent used to

deodorize air, purify water, and treat industrial wastes. Ref.: Amer. Heritage Dictionary on line, e.g. . http://www.bartleby.com/61/

Paleontology – The science which deals with the history and evolution of life on earth.

Peak Flow – The greatest flow attained during melting of winter snow pack or during a large precipitation event.

PSB – Public Service Board, the same entity as the Vermont Public Service Board, a quasi-judicial board that supervises the rates, quality of service, and overall financial management of Vermont's public utilities: cable television, electric, gas, telecommunications, water and large wastewater companies. It also reviews the environmental and economic impacts of energy purchases and facilities, the safety of hydroelectric dams, the financial aspects of nuclear plant decommissioning and radioactive waste storage, and the rates paid to independent power producers.

Radial line – Lines that are not connected through (looped) to a transmission grid.

Raptor – A bird of prey with sharp talons and strongly curved beaks which preys on living animals (e.g., eagles, hawks, falcons, and owls).

Reliability – Electric system reliability consists of two components: adequacy and security. Adequacy is the ability of the electric system to supply the total electrical demand and energy requirements of the customers at all times, taking into account scheduled and unscheduled outages. Security is the ability of the electric system to withstand sudden disturbances such as electric short circuits or unanticipated loss of system facilities.

Resistance – In electricity, the opposition of a body or substance to current passing through it, resulting in a change of electrical energy into heat or another form of energy. Often represented by the Greek letter omega (Ω). Ref.: Amer. Heritage Dictionary, e.g. at http://www.bartleby.com/61/

Riparian – Land areas which are directly influenced by water. They usually have visible vegetative or physical characteristics showing water influence. Stream banks, borders of lakes, and marshes, are typical riparian areas.

ROW – Right of Way. The right to use a parcel of land for a particular purpose.

Runoff –Precipitation that is not retained on the site where it falls, is not absorbed by the soil, and that may appear in surface streams.

Scoping – Procedure under NEPA by which agencies determine the extent of analysis necessary for a proposed action, (i.e., the range of actions, alternatives, and impacts to be addressed; identification of significant issues related to a proposed action; and the depth of environmental analysis, data, and task assignments needed).

Sediment – Soil or rock particles that have been transported to stream channels or other bodies of water. Sediment input comes form natural sources, such as soil erosion and rock weathering, as well as from agricultural or construction practices.

Short-Term Impacts – Short-term impacts are defined as those effects that would not last longer than the life of the project.

Significant – As used in NEPA, determination of significance requires consideration of both context and intensity. Context means that the significance of an action must be analyzed in several contexts such as society as a whole, and the affected region, interests, and locality. Intensity refers to the severity of impacts (40 CFR 1508.27).

Single-circuit – A transmission line consisting of one system of conductors (or wires) through which electric current flows.

Stormwater Runoff – Overland runoff from snowmelt or a precipitation event.

Substation – An assemblage of equipment for the purpose of switching and/or changing or regulating the voltage of electricity.

Tap – A point where transmission lines are connected to other transmission lines without circuit breakers and associated protection equipment.

Threatened Species – Any species of animal or plant which is likely to become endangered within the foreseeable future throughout all or significant portions of its range, as designated in the Federal Register by the Secretary of the Interior as a threatened species. Disturbance of the habitat of threatened species is prohibited by the Endangered Species Act of 1973, as amended.

UMF – University of Maine at Farmington

Volt –The International System unit of electric potential and electromotive force, equal to the difference of electric potential between two points on a conducting wire carrying a constant current of one ampere when the power dissipated between the points is one watt. Ref.: Amer. Heritage Dictionary on line, e.g. http://www.bartleby.com/61/

Voltage – A measure of the force which transmits electricity.

VPSB – Vermont Public Service Board. See Public Service Board.

Watershed – All the land that drains surface water to a given stream above a designated point (usually the mouth of the stream); also called a stream drainage or drainage basin.

Wetlands – Areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

YBP – Years Before the Present